



For a Healthier Lifestyle

***OZONATORS
FOR SWIMMING POOLS***





SWIMMING POOL OZONATORS

Swimming Pool Water disinfection is one of the key treatment steps for all types of public and private pools. Assured and Efficient pool water disinfection is essential.

Swimming pool water is mainly contaminated by swimmers, and also by incoming water quality and environment pollutants. The pollution mainly caused by swimmers, makes it a very dynamic pollution, which is dependent on the number and types of swimmers.

Swimming pool pollutants can be divided up into three groups: **Microorganisms** (such as bacteria, fungi and viruses), **Undissolved** pollutants (visible floating particles such as hair and skin flakes, colloidal particles and soap remains) and **Dissolved** pollutants can consist of urine, sweat, nasal fluids and saliva.

For many years, chlorine or bromine based chemicals have been the standard disinfectants used in swimming pool water treatment. However, studies have proven that the use of these chemicals can have health consequences due to the formation of reaction by-products, mainly chlorinated organic compounds and chloramines. Chloramines are responsible for eye, ear and throat irritation as well as the presence of strong “chlorine” odour. In a number of cases, stable compounds can be formed, which can only be removed from the swimming pool water by water change.

Certain viruses, amoebae and cysts are also not inactivated at the chemical dosage levels normally used for pool water treatment.

OZONATORS in Swimming Pool Water Treatment

Numerous private, public, commercial, water park, hotel swimming pools have switched to Ozone technologies as people become more concerned about chlorine and chlorinated by-products.

Recent research has shown that children’s immune

systems may be affected by swimming in chlorinated swimming pools. The health risks are also increased for swimmers that train twice a day.

Ozone swimming pools are fast becoming the most preferred way of taking a healthy & a cool dip.



ADVANTAGES OF OZONE IN SWIMMING POOL WATER TREATMENT:

- Effectively destroys Bacteria, Viruses, Fungi, Algae & Spores.
- 5 times faster than chlorine and 3,000 times the disinfection potential than chlorine.
- Ozone has a micro-flocculation property, thus increasing the effectiveness of the micro-filtration system, and also avoiding costly nano filters.
- Oxidizes inorganic compounds such as sulphides, nitrites, and other soluble ions.
- Removes Odours and Reduces Turbidity.
- Waste (Backwash) water does not require further treatment.
- No harmful disinfectant By-products. In addition, it adds oxygen to the water, making pool users feel more fresh.
- Environmentally friendly. Ozone is the most powerful and natural disinfectant.
- Water use is decreased. Because of an increase in water quality, the need to empty and refill the pool repeatedly is reduced.
- Ozone oxidizes organic and inorganic matter in the water, without the formation of unwanted by-products, such as chloramines.
- Certain chlorine-resistant pathogens cannot multiply in water that is treated with ozone.

SOME IMPORTANT AND PRACTICAL BENEFITS:

- Pool is continuously kept disinfected and fresh due to the 'in-line process' of using the Ozonator. A chlorinated pool is periodically given a shock treatment with required dose of the chemicals, then left to aerate for over 24 hours, before the pool is allowed to be used again.
- With periodic chlorination, the pool water quality gets progressively bad, till the next chlorination. Then the pool is dis-allowed for use till the strong chlorine smells are reduced. This up and down cyclical nature of water quality is obviously not desirable. With an Ozonator, the water quality is continuously maintained at the best possible levels.
- Gives the pool users a refreshing and healthy experience, always!!
- Reduces cross contamination between users, as water is continuously disinfected and does not have to wait till the next time the pool is chlorinated. Otherwise, there is a high risk of one user effecting all other users.
- Frequent downtime can be avoided, using an Ozonator.



DISADVANTAGES OF CHLORINATION

- Eye reddening & conjunctivitis.
- Skin rashes, Skin darkening, Hair fall Increases.
- Disinfectant Byproducts are dangerous. Produces Trihalomethanes (THM), which are carcinogenic.
- Environmentally hazardous.

WHY WAS CHLORINE USED IN THE EARLY DAYS, DESPITE OZONE'S SIGNIFICANT COMPARATIVE ADVANTAGES?

- There was little or no alternative to Chlorination earlier.
- The side effects of continued use of chlorination and its carcinogenic by-products were not well known earlier.
- Another important problem was that many pool engineers & consultants were not familiar with the Ozone technology.
- Reliable Ozonators were not available. What were available were mostly Chinese imports, and no local support or service.
- Using an Ozonator requires higher initial capital cost compared to chlorine.



TZ50A



TZ5A



TZ100A

**Smaller Home and Apartment complex pools,
Resorts and Star Hotels,
Private Membership clubs and Public municipality pools,
Olympic size pools,
Sports Academies and swimming clubs,
Water Parks.**

The cost benefit analysis of investing in an Ozonator versus using Chlorination for disinfections, is also heavily in favour of using an Ozonator.

Typically a swimming pool of 1 lakh litre capacity uses, about 12 kgs of Chlorine per month. At a cost of Rs 300/Kg, this works to a running cost of Rs 3,600 per month. Plus the cost of labour and management comes to Rs 4,000 per month. That is approximately Rs 48,000 per year. Plus the cost and Risk of Storage and

Handling chemicals, trained personnel for the application, and regularly monitoring the timely application, all add up to be quite a burden.

An Ozonator for a one lakh litre pool will consume less than 400 watts per hour. Assuming a 10 hour per day usage, that is 4 kwh (units) per day. At a cost of 6 Rs/unit, the operating cost will be less than Rs 25/day, or about Rs 750 per month, that is about Rs 9,000 per year.

The TES Ozonators can cater to any pool size from 20,000 litres to 25,00,000 litres and more. That is from small home pool to Olympic size Pools.



For a Healthier Lifestyle

Some of our satisfied customers include:

Astral Pools India - Chennai,

www.astralpool.com



Fluidrame – Fluidra is a Spanish multinational group, with head quarters in Barcelona, We've supplied several units to their Middle east operation, where our equipment is used for all their client projects in the middle east,

www.fluidrame.com



The Madras Race Club, Chennai



IAS Officers Mess, Chennai,
Govt. of Tamil Nadu

Several apartment owners associations in Bangalore

“Once you have used an Ozonated swimming pool you will insist on all your friends and family to do the same.”

Resident,
Legacy Dimora Apartments, Bangalore

www.technozone.in

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